CONCLUSIONS

- Starting with the next manufacturing cycle in early 1999, manufacturers can produce many fully featured audio product lines with standby functions that meet the EPA 2-watt standby power limit without loss of product performance and at estimated incremental costs ranging from minus (-) $2.00 to less than $0.50 per product unit.

- Given the pace of innovation and market trends, manufacturers will likely be able to produce—before the year 2003—all mass-market, fully featured audio product lines with standby functions that meet the EPA 1-watt specification without loss of product performance at no incremental cost per product unit.

- Manufacturers can select from a variety of technologies to meet the specification, but the best opportunities lie in products consuming 5 to 10 watts. These mass-market products can operate with high side switchers, saving manufacturers up to $2.00 per product.

- Load reduction techniques can play an important role in "right-sizing" the power supplies. Efficient displays and other components can reduce the load from standby functions to help meet the EPA specification.

- Unless switchers (high side and low voltage) make inroads into higher power levels (beyond 10 watts) in a cost-effective way, top-of-the-line products (products costing more than $175) may incur costs to meet the specification.

- Current technology allows proactive manufacturers to go beyond the EPA specification. Improved low-power delivery systems (such as the high side switcher and the low voltage switcher) used in conjunction with load reduction techniques and conscientious engineering choices create opportunities to manufacture "permanently on" products that have negligible power needs when powered down. Other ENERGY STAR® products, such as computers and copiers, already have this power-down capability. At this time, no engineering or cost barriers prevent manufacturers from designing audio devices that power themselves down after delivering services and then consume less than 1 or 2 watts.